

Dr. Walsh's book on the physiology of the nervous system. There are many students of neurology, both undergraduate and postgraduate, who find modern neurophysiology a rather forbidding subject involving a great deal of difficult biophysics. To such readers Dr. Walsh's book can be warmly recommended as giving an excellent picture of the range of enquiry of the neurophysiologist, without burdening the reader with unnecessary detail. At the same time the numerous references to original papers provide a stimulating guide to further reading.

In a book of this sort, which provides only an introduction to a highly complex subject, it would be ungenerous to refer to omissions; the balance of the book reflects Dr. Walsh's personal view of what is important in neurophysiology, and indeed it is this quality which makes the book such an interesting and readable one. It might be suggested, however, that in the next edition the physiology of the basal ganglia should receive more detailed treatment. When the first edition of this book was written, it may have been true that we knew only a few fragmented facts about the basal ganglia, and had no coherent theory of their function; in recent years, however, this situation has been greatly changed by the neurosurgical procedures which are now used for Parkinson's disease, and a new chapter on this subject is clearly required.

R. W. GILLIATT

OEUVRES CHOISIES I AND II By G. Marinesco. (Pp. 589 and 561; illustrated. Each volume Lei. 63.) Bucharest: L'Académie de la République Populaire Roumaine. 1963.

These two volumes of selected works of Georges Marinesco cover papers published from 1895 to 1937. The earlier volume (Volume I) contained papers dating from 1895 to 1923 and Volume II contains papers from 1924 to 1937. Thus in these two volumes we have the whole selected works of this great contributor to modern neurological science. Marinesco, born and educated in Bucharest, began his neurological studies in Paris under Charcot at the Salpêtrière. There he worked with Marie, Babinski, and Raymond; at Frankfurt-am-Main he studied with Weigert. In 1897 he was appointed to the Chair of Clinical Neurology created at Bucharest, which he was to occupy for 41 years, for him a period of intense activity in both research and teaching. It is a pleasure to look through this book and note the landmarks of discovery in neuropathology, neurophysiology and clinical neurology for which this great man was responsible. As a reference source to the period of neurological science spanned by Marinesco's working life these two volumes will be invaluable.

J. TREVOR HUGHES

PAVLOV'S TYPOLOGY Recent Theoretical and Experimental Developments from the Laboratory of B. M. Teplov. Compiled, edited, and translated by J. A. Gray. (Pp. xv + 480; illustrated. 84s.) Oxford: Pergamon Press. 1964.

It is well known that Pavlov in his later years expressed a number of views regarding the different 'types' of nervous system displayed by his experimental dogs and was wont, informally, to extend these conceptions to human tem-

perament and personality and to their disorders. A 'weak' nervous system is one which possesses such a constitutional balance of excitatory and inhibitory tendencies that, with increasing stimulus intensity, the point at which increasing response is replaced by protective inhibition is reached sooner than in the type labelled 'strong'. Studies of human behaviour based upon these ideas have been carried on in the Moscow laboratory of B. M. Teplov since before the last war until the present day, and views current in Soviet scientific circles regarding human personality in both normal and pathological connections cannot be understood without access to this work.

Such success Dr. Gray provides in this volume. Unlike many other efforts to mediate between Russian and western science, this work is marked by outstanding scholarship and admirable clarity of language and concept in the English rendering. Relevant original sources seem to have been fully and faithfully explored. The greatest care has been taken to avoid misunderstandings which might arise (as so often they have in the past) through conceptual incompatibilities between the two languages. In these respects the results of Dr. Gray's labours ought to be taken as a model for others moved to similar undertakings.

The book falls into three parts. The first is a translation of an extended essay by Professor Teplov which provides the reader with an interpretative summary of Pavlov's theory of the constitution of the nervous system and of the animal experiments on which it was based. Much of the material referred to and elucidated (notably the records of Pavlov's 'Wednesday Discussions') is not available anywhere else in western translation. This sets the stage for Dr. Gray himself, who contributes a lengthy section in which he critically examines and elucidates the enormous literature of research, Western and Soviet, that is relevant to an extension of Pavlov's ideas of human temperament and personality. Finally we are given a selection of papers from Professor Teplov's laboratory relating to the 'dimension of strength of the nervous system in man'.

Anybody who peruses a book such as this, or who has the opportunity of close discussion with Russian colleagues will probably be struck by two reflections. The first is, 'How strangely different, and difficult to feel one's way into, is the framework within which they think.' The second, 'How oddly similar to many of ours are their preoccupations at the level of actual experiment.' The outcome is immensely stimulating and no psychologist or psychiatrist should fail to profit by the well-conceived and admirably constructed window provided by Dr. Gray.

R. C. OLDFIELD

A MODEL OF THE BRAIN By J. Z. Young. (Pp. vii + 348; 111 figures. 35s.) Oxford: Clarendon Press. 1964.

In 1960 Professor J. Z. Young gave the William Withering lectures at the University of Birmingham. In this book he gives the substance of these lectures developed in accordance with his thinking to date upon the mode of action of the brain. He views the human organism as a self-teaching homeostat, the computer for which is the

brain. The way in which this computer may work is illustrated largely by reference to the author's outstanding work upon the octopus. To this is added accounts of the structural characteristics of the human brain, though here the gaps in our knowledge are more apparent than the certainties we have.

It is a fascinating book, the reaction to which will be largely determined by temperament. Readers will either be inspired by the vision that we may soon understand the nature of man or depressed by the seemingly infinite gap between hypothesis and fact in our approach to this understanding.

ATLAS OF NEUROPATHOLOGY By W. Blackwood, T. C. Dodds, and J. C. Sommerville. (Pp. xii + 234; 311 figures. 60s.) Edinburgh and London: E. & S. Livingstone Ltd. 1964.

This second edition contains new information about the development of myelin, vascular diseases, encephalitis, demyelinating diseases, paralysis agitans, diseases of muscle, and cerebral tumours. The book's 311 photographs and diagrams are very well selected and excellently reproduced. There is no doubt that this atlas will be very helpful to people beginning the study of neuropathology and have no access to a comprehensive collection of slides or specimens.

Professor Blackwood has resisted the temptation to make too detailed a comment on the various diseases illustrated, and sometimes he may have gone too far in simplifying matters for his readers. No harm would be done to the next edition if some of the blank spaces on these printed pages were to be at least partially filled by a little more description of the essential features of the conditions mentioned, and certainly the student would be better orientated in his later reading.

R. M. NORMAN

MECHANISMS OF NEURAL REGENERATION. *Progress in Brain Research* Vol. 13. Edited by M. Singer and J. P. Schädé. (Pp. 241; 16 figures; 11 tables. 80s.) Amsterdam: Elsevier. 1964.

This book derives from eight lectures given to the first International Summer School of Brain Research at the Royal Academy of Science, Amsterdam, in July 1963. Each lecture is an authoritative review and personal account of recent experimental work by renowned experts in their own field. The trophic properties of the neurone are dealt with by M. Singer, and the importance of neurotrophic processes in regeneration by E. Gutmann and H. A. L. Trampusch. Experiments with a factor promoting regeneration of spinal neurones are described by D. Scott and C. N. Liu. Axoplasmic streaming is discussed by L. Lubińska and the proximodistal movement of phospholipids by N. Miani.

Some ultramicroscopical findings in experimental segmental demyelination and in myelin regeneration in peripheral nerve are very beautifully described and illustrated by H. de F. Webster. The development, degeneration, and regeneration of receptor organs are described by J. Zeliña. There is a verbatim report of the discussion that took place at the end of each paper, which is relatively short and to the point.

8

In common with the other volumes of 'Progress in Brain Research', this volume is beautifully produced, and the illustrations, many photomicrographs and ultraphotomicrographs are superbly reproduced.

This is a very important book, of great interest to the neurologist and physiologist, dealing mainly with the anatomy and physiology of neuronal regeneration: a basis for the recovery of function following disease of the nervous system.

GEOFFREY RUSHWORTH

SCINTILLATION SCANNING IN CLINICAL MEDICINE Edited by James L. Quinn. (Pp. 278; illustrated. 80s. 6d.) Philadelphia: W. B. Saunders and Co. 1964.

This book is based on a symposium held in 1964 in North Carolina. It deals with scintillation counting in clinical medicine as a whole, and there are sections devoted to the basic principles of scanning and to the methods and usefulness of scanning particular organs. The section devoted to neurology consists of two chapters. One reviews experience at the Johns Hopkins Hospital of 1,000 consecutive patients examined to demonstrate or exclude the presence of an intracranial tumour, and the other reports a panel discussion by doctors from five centres. The style is clear and there are many excellent reproductions of scans and radiographs. The rival merits of ^{131}I albumin and of ^{203}Hg chlormerodrin are discussed, and it is argued that future improvements will come with the use of radioactive material with a lower physical or biological half-life so that larger doses may be given. Scanning detects over 70% of tumours, and very rarely indicates an abnormality where none is present. It is said to be particularly reliable in detecting meningioma and fast growing glioma and is regarded as a valuable screening procedure for subjects whose clinical states do not warrant angiography or air-encephalography. Where scanning and angiography are both performed the accuracy of diagnosis is greater than with either alone. It is also reported that non-tumorous lesions, such as subdural haematoma, cerebral contusion and, for one to two days, the effect of cerebral angiography, are detectable. Though this book is not primarily neurological, neurologists interested in the clinical value of scanning will read it with profit.

AGAR GEL ELECTROPHORESIS IN NEUROLOGY By A. Lowenthal. (Pp. x + 204; 69 figures. 60s.) Amsterdam, London, New York: Elsevier Publishing Co. Ltd. 1964.

In this book the author discusses modern methods for the examination of cerebrospinal fluid proteins. An evaluation is made of the techniques of paper electrophoresis, agar gel electrophoresis, and immunoelectrophoresis; the limitations and advantages of each of these for the study of cerebrospinal fluid is carefully considered. The results of examinations of fluids from a large series of human pathological conditions by these methods are presented and discussed, with references to other data in the literature. A chapter on the examination of cerebrospinal fluid from animals with neurological diseases (rida, visna, and swayback in sheep), and one dealing with agar gel electrophoresis of soluble proteins from human cerebral tissue are also included.